



SCIENCE AND
INDUSTRY
ENDOWMENT
FUND



PENRITH
CITY COUNCIL

STEM Community Partnerships Program

Penrith local scenario

Management of the natural environment

Penrith City Council maintains approximately 1,200 hectares of sports fields, open space, reserves, and gardens, with approximately 8,000 hectares of the Penrith City zoned for nature reserves or national park. As additional areas are developed into new residential areas and the local community grows in size and population, Council has committed to improving its open spaces and ensuring residents can maintain a healthy and active lifestyle.

To effectively manage and protect Penrith's bushland, Council has prepared Bushland Plans of Management, which provide a framework for their ongoing management. The plans consider the aesthetic, recreational, educational and scientific values of the reserves to the community while improving and maintaining biodiversity and threatened species in the long term.

Technological advances can play a pivotal role in local land management. Innovation can help us work smarter and more sustainably to meet challenges in managing our natural resources, including to restore bushland, provide new spaces for purpose-built use, maintain existing spaces and protecting against the extreme elements in the area, such as heat and flooding.

Penrith City Council have the challenge to ensure they utilise tools and systems to effectively manage the local natural environment for use by residents, animals and the larger ecosystem.

How your Council tackles the complexity of this issue will impact you and your community, now and in the future.



Photos courtesy of Penrith City Council website

Your task

Your task is to use the information above, and resources provided below as a start to identify a local problem and design a STEM-focussed solution.

(Question, Design, Explore, Communicate)

Resources

CSIRO research

- Cities and towns, Mark Lonsdale and Richard Fuller, CSIRO
https://www.publish.csiro.au/ebook/chapter/9781486302062_Chapter_8
- Establishing a national agenda for urban infrastructure, CSIRO
<https://www.csiro.au/en/research/environmental-impacts/sustainability/green-infrastructure>
- Natural environments – oceans and coasts, landscapes and inland waters, to atmosphere and climate <https://www.csiro.au/en/research/natural-environment>

Reports

- Western Sydney University – Study finds access to green space not equitable in nation’s largest cities
https://www.westernsydney.edu.au/newscentre/news_centre/story_archive/2014/study_finds_access_to_green_space_not_equitable_in_nations_largest_cities
- Government of Western Australia – Natural grass vs synthetic turf study report
<https://www.dlgsc.wa.gov.au/department/publications/publication/natural-grass-vs-synthetic-turf-study-report>
- Australian Government, Department of Agriculture, Water and the Environment – Technology and innovation lead the way in forestry <https://www.agriculture.gov.au/forestry/planning-tomorrow/innovation-and-technology>
- Australian Government, Department of Industry, Science, Energy and Resources, Digital technologies will deliver benefits across the economy and society
<https://www.industry.gov.au/data-and-publications/australias-tech-future/introduction/digital-technologies-will-deliver-benefits-across-the-economy-and-society>

Articles and other resources

- Penrith City Council – Sport and Recreation Strategy <https://www.penrithcity.nsw.gov.au/facilities-recreation/outdoor-recreation/sport-and-recreation-strategy>
- Penrith City Council - Biodiversity and Bushcare <https://www.penrithcity.nsw.gov.au/waste-environment/environment/biodiversity-and-bushcare>
- Technology helping us to be better stewards of our land, Landcare Australia
<https://landcareaustralia.org.au/project/technology-helping-us-to-be-better-stewards-of-our-land/>